Subpart 111.20—Transformer Construction, Installation, and Protection

§ 111.20–1 General requirements.

Each transformer winding must be resistant to moisture, sea atmosphere, and oil vapor, unless special precautions are taken, such as enclosing the winding in an enclosure with a high degree of ingress protection.

[CGD 94–108, 61 FR 28278, June 4, 1996]

§ 111.20–5 Temperature rise.

(a) The temperature rise, based on an ambient temperature of 40 degrees C, must not exceed the following:

(1) For Class A insulation, 55 degrees C.

(2) For Class B insulation, 80 degrees C.

(3) For Class F insulation, 115 degrees C.

(4) For Class H insulation, 150 degrees C.

(b) If the ambient temperature is higher than 40 degrees C, the transformer must be derated so that the total temperature stated in this section is not exceeded. The temperature must be taken by the resistance method.

§ 111.20–10 Autotransformers.

An autotransformer must not supply feeders or branch circuits.

§ 111.20–15 Transformer overcurrent protection.

Each transformer must have protection against overcurrent that meets article 450 of the NEC or IEC 92–303.

[CGD 94–108, 61 FR 28278, June 4, 1996]

Subpart 111.25—Motors

§ 111.25–1 General requirements.

The requirements for generators contained in § 111.12–5 apply to motors.

[CGD 74–125A, 47 FR 15236, Apr. 8, 1982, as amended by CGD 94–108, 62 FR 23908, May 1, 1997]

§ 111.25–5 Marking.

(a) Each motor must have a marking or nameplate that meets either article 430–7 of the NEC or IEC 92–301 (clause 16).

(b) The marking or nameplate for each motor that is in a corrosive location must be corrosion-resistant.

[CGD 74–125A, 47 FR 15236, Apr. 8, 1982, as amended by CGD 94–108, 61 FR 28278, June 4, 1996]

§ 111.25–15 Duty cycle.

Each motor must be rated for continuous duty, except a motor for an application listed in Table 111.25–15 or a similar duty must meet the minimum short-time rating stated in the table.

TABLE 111.25–15

Application of motor	Minimum short-time rating of motor, in hours
Deck winch and direct acting capstan.	Half.
Deck winch with hydraulic transmission.	Continuous at no load followed by ½ hr. at full load.
Direct acting windlass	One fourth.
Windlass with hydraulic transmission.	Half hour idle pump operation, followed by ¼ hr. full load operation.
Steering gear, direct acting ...	One.
Steering gear, indirect drive ..	Continuous operation at 15 pct. load followed by 1 hr. at full load.
Watertight door operators	1/12.
Boat winches	1/12.

Subpart 111.30—Switchboards

§ 111.30–1 Location and installation.

Each switchboard must meet the location and installation requirements of section 17.1 of IEEE Std 45 or IEC 92–302, as applicable.

[CGD 94–108, 61 FR 28278, June 4, 1996]

§ 111.30–3 Accessibility of switchboard components and connections.

Each component and bus bar connection on a switchboard that is not accessible from the rear, except a bus bar connection for a draw-out type circuit breaker, must be within 0.5 m (20 in.) of the front of the switchboard.

§ 111.30–4 Circuit breakers removable from the front.

Circuit breakers, when installed on generator or distribution switchboards, must be mounted or arranged in such a manner that the circuit breaker may